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REVIEW

The use and design of the BSC in the health care sector: A systematic literature review for Italy, Spain, and Portugal

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Summary

The aim of this paper is to gain a better understanding of how the balanced scorecard (BSC) has evolved in Spain, Italy, and Portugal. It reviews all the articles on the BSC in the health care sector written between 1992 and 2015 by Spanish, Italian, or Portuguese authors and published in Spanish, Italian, or Portuguese as well as in English.

Our study first shows the state of knowledge on BSC in health care for a homogeneous group of Southern European countries. Second, it uncovers the perspectives, indicators, and generation used in the countries under observation to reveal the extent to which this management tool has evolved. Third, it analyses international variations in design and use within the health care context, especially in the United States. Moreover, it also highlights a number of important issues. The BSC is in its early stage of development in these 3 countries, which do not use it as a tool to implement strategy and align all of the elements that help integrate the organization.

KEYWORDS

balanced scorecard, health care, Italy, Portugal, Spain

1 | INTRODUCTION

The balanced scorecard (BSC) is increasingly being used in the public health care sector.[1-4] Although the BSC comes from the business world, the field of health care, including for-profit and nonprofit health care organizations, currently uses many business management practices and techniques. For example, the health care sector in the United States (especially in hospitals) and the National Health Service (NHS) in the United Kingdom have both used the BSC.[5,6] Several articles highlight the potential benefits of this tool in various health care settings: community health partnerships,[7] children's hospitals,[8] army medical departments,[9] and outpatient services.[10]

On the one hand, the BSC is an American management control tool that may be influenced by national cultures when it is applied in other territories. This influence could generate some differences in BSC use and design depending on the country. The dimensions of Hofstede[11] have been used to perform extensive research on the impact of national culture on the design of management control systems. Additionally, as Malmi[12] underlines, national differences in managerial practices have led to several different conceptualizations and interpretations of management control. However, these divergent views have not converged into a system of universally accepted concepts on which academic and practical work can be based. Lin[13] considers location, language, religion, corruption, population, and economic development as proxies for cultural characteristics in each individual country. The countries studied (Italy, Spain, and Portugal) share characteristics that influence human group behaviour regarding the environment and thus, the design, the adoption, and even the use of management control systems.

On the other hand, other reasons may justify the differences in BSC research design and use in different countries in the health care sector, but they may differ according to the health systems and the relationship between the public and private sectors. These differences are important when comparing European countries to other countries, such as the United States, and even when comparing different countries within Europe.

Hoque[14] also suggests further research to determine international variations in the design and use of the BSC in organizations for both private and public sectors. Intercountry surveys, or in-depth field studies, in a specific country on various BSC issues outlined above might be enlightening. These studies could provide some explanations for the commonalities and/or differences in BSC practice and their effectiveness in different types of settings across the globe.

The goals and contributions of our research are 3-fold. First, our study illustrates the state of the knowledge and use of the BSC in the health care sector within a homogenous group of Southern European economies. The results shed some light on the extent to which the BSC has been studied in Southern European countries; most existing research examines the BSC in Anglo-Saxon countries.[14-16] Second, prior research on the perspectives, indicators, and types of the BSC in the health care sector did not develop in Southern Europe. In this regard, this paper answers the following 3 research questions: (1) Which perspectives are used? (2) Which specific performance measures are used within the BSC? (3) What type of BSC is used? The information obtained may help interpret the evolutionary steps in the process of BSC implementation. Third, we analyse international variations in the design and use of the BSC in the health care context and provide some explanations regarding the differences between the United States, where it was first implemented, and 3 Southern European countries, where it is currently being applied.

Furthermore, our study is supported by Hoque[14] who affirms that accounting in the public sector, with its diversity of social and political contexts, may be more complex than it is in the private sector. Moreover, accounting plays a key role in constituting practices, so it is crucial to address these issues.

The structure of the paper is as follows. After the introduction, the second section discusses the theoretical framework on which the BSC is based in the health care field. The third section describes the methodology. The fourth section introduces the studies published in this field, and the fifth section presents the results and discussion of the analyses on this topic in Spain, Portugal, and Italy. Finally, the last section concludes and proposes future research on the basis of our findings.

2 | LITERATURE REVIEW ABOUT THE BSC IN HEALTH CARE

2.1 | Introduction to the BSC

Management control systems are formal, routine-based systems that help to maintain or alter organizational activities.[17] Business management is traditionally based on financial indicators.[18] In fact, during the industrial age, economic and financial information was practically the only tool that was used to facilitate the decision-making process in the world of business. However, the IT revolution clarified the need for a wider range of information, making nonfinancial data more important.

In response to this need, Kaplan and Norton[19] developed a methodology to assess management and organizational performance, which they called the BSC. This model incorporated both financial and nonfinancial indicators. After its first successful testing in the private sector, some studies analysed how it could be adapted for use in the public sector and in nonprofit organizations.[3,5,6,20]

A tool, such as BSC, able to capture not only financial information, is relevant for the public sector. Indeed, during the last few years, cost managing has become essential in health care organizations; but understanding the relationship between quality and cost is even more relevant. To monitor these variables, the health care system needs an advanced tool like the BSC, which is particularly appropriate for organizations in turbulent industries like health care.[21]

The creation of the BSC dates back to the late 1980s when the earliest research of Kaplan and Norton was published,[19] which advocated a performance measurement system that would provide "a set of measures that gives top managers a fast but comprehensive view of the business." Four perspectives—financial, customer, the internal business process, and learning and growth perspectives—are central to this measurement system. In subsequent developments, these perspectives were linked in a cause-effect manner by "if-then" statements, such as the following: "If we increase capabilities, then lower re-admission rates will occur" and "If re-admission rates are lower, then patient satisfaction will increase."[22]

The meanings of the 4 perspectives in the BSC are clearly delineated.[19] The indicator relating to the learning and growth perspective explains how the organization will generate value in the future; the internal business process and customer perspectives describe how value is currently produced; and the financial perspective explains the generated value. This model is also supported by the results of Voelker et al.[20] These authors find that the traditional systems used to evaluate business operations primarily focused on financial measures, which, in many cases, hindered the organization's growth and success. Traditional systems, mainly based on financial measures, do not appropriately consider the nonfinancial indicators that may help the organization in the decision-making process.[23]

In addition to these 4 main perspectives, the BSC contains a series of indicators that are intended to reflect the organizational strategy, which allows a business to evaluate its strategy, ie, if the pursued strategy is a winning strategy, and to measure the success of its practical application through the financial indicator, ie, the degree to which the goal has been achieved. To reinforce this tool and to move from theory to practice in a simpler way, some concepts must be taken from the field of strategic planning. In particular, businesses must select the indicators that are necessary and sufficient for each one of the perspectives, basing their choices on an integral analysis of the company. Considering the relationship between the distinct processes involved in day-to-day company activities is also important.

2.2 | The BSC in health care

Different articles have been published in the health services and management literature since Griffith's first article on the BSC in health care settings in 1994.[24] According to Zelman et al,[3] the BSC has been adopted by a wide range of health care organizations, including health systems, hospitals, psychiatric centres, and national health care institutions. Several articles have described the use and potential benefits of this tool in various health care settings: community health partnerships,[7] children's hospitals,[8] army medical departments,[9] and outpatient services.[10] Although many health care organizations have successfully implemented the BSC, Neely and Bourne[25] claim that up to 70% of all organizations, not simply health care organizations, fail to apply it successfully. Expecting that "the success of the BSCs implementation depends not only on selecting measures that are relevant, manageable, and important, but also on how leadership, supervisors, and employees gain knowledge about the status of BSC metrics" is reasonable.[26]

As with other types of businesses in the service industry, hospitals have operated for many years in a stable, noncompetitive, highly regulated, and protected environment with little freedom to open new businesses or to set the prices of their services. However, the current trend in the health care field involves introducing initiatives that

aim to decentralize and offer more management autonomy to health services and hospitals as well as other useful tools to help them succeed in a competitive market. Consequently, health care providers must be aware of the impact of their assets on their performance and accept that intangible assets make the biggest difference in a competitive market.[27]

The management of intangible assets is very important for the success of businesses, whether in for-profit or nonprofit organizations. Few institutions use knowledge-intangible assets as intensively as hospitals do. Thus, examining the current state of research in this field seems rather important, even though such a highly regulated market imposes limitations that must be taken into account.

In their study, which examined the main papers on the BSC's application in health care sector, Zhang et al[28] highlighted the key propositions and contributions, as summarized in the following table (Table 1).

Using this evidence as the foundation of our study, we would like to examine state-of-the-art BSC use in Spain, Italy, and Portugal through a literature analysis. In particular, we would like to determine the extent to which the BSC is used as combination of financial and nonfinancial indicators or as a tool to develop strategic control systems in these 3 countries.

2.3 | Evidence in health care BSC use in different countries

Analysing the main evidence from different countries' use of the BSC in health care organizations is useful in providing some explanations to justify variances and similarities in BSC practices in different settings. However, as far as we know, no published comparative studies on the BSC consider several countries and focus on the health care sector; published studies only examine the BSC in general or only do so in one specific country without conducting any comparisons. The difficulty of finding BSC studies in the health care sector has also been underlined by Hoque,[14] who found only 1 paper out of 114 related to the nonprofit health care sector. The BSC is widely used in the industry, although mainly in large companies,[29] which may explain Hoque's meagre findings. Nevertheless, previous studies on the BSC in the nonprofit context and in different countries are summarized in the following table (Table 2).

We may draw the following key conclusions concerning BSC within the health care context:

- Operations and strategy in the BSC hardly relate.[2,30]

TABLE 1 The main contributions to the literature on the BSC in the health care sector

Year	Scholars	Main Propositions and Contributions
1995	Baker and pink	First to discuss the applicability of the BSC in hospitals
1998	Chow et al	The BSC can be used by health care organizations to meet current challenges
2002	Inamdar et al	The BSC can be successfully applied in the health care sector
2003	Radnor and Lovell	Defining, justifying, and implementing the BSC in the NHS
2006	Schmidt et al	Explaining how a mental health trust delivers excellent performance using the BSC
2006	Walker and Dunn	Improving hospital performance and productivity with the BSC
2009	Moullin	Implementing the PSS
2011	Kollberg and Elg	The BSC is used as a tool for improving internal capabilities and supporting organizational development
2011	Tapinos et al	Empirical evidence on how BSC use influences the strategy process

Source: Zhang et al.[28]

Abbreviations: BSC indicates balanced scorecard; NHS, National Health Service; PSS, public sector scorecard.

TABLE 2 Main empirical evidence regarding the BSC in the health care sectors of different countries

Author (year)	Country and Sample	Major Findings
Aidemark (2001)	One health care institution in Sweden	The BSC is useful in broadening performance management beyond purely financial issues. Current lack of understanding of the interaction between operations and strategy.
Radnor and Lovell (2003)	Focus groups with contributors drawn from all the key organizations within the health action zone in the United Kingdom	Even though the BSC has become a highly popular performance management tool, its use in local public sector NHS organizations is still rare in the United Kingdom.
Gumbus et al (2003)	Case study of Bridgeport Hospital in the United States	For many institutions, financial pressure translates into an increased emphasis on financial metrics to the exclusion of other parameters. Performance assessments must include other dimensions, specifically quality, patient satisfaction, and staff retention in addition to revenues and operating costs. The BSC provides a framework for measuring performance in a complex and changing medical environment.
Chang Li-cheng (2007)	Local health authorities in the United Kingdom	The use of performance measurement systems should consider the politics and power that an organization encounters.
Greiling (2010)	20 German nonprofit organizations in the field of social services	In an early phase of BSC implementation, the BSC is often used as a measurement tool, not as a management system.
Rodgers M. C. (2011)	Analysis of the NHS in the United Kingdom	The use and nature of the BSC in the United Kingdom, where specific health care organizations are developing, although its use is still relatively limited.

Source: author's elaboration.

Abbreviations: BSC indicates balanced scorecard; NHS, National Health Service.

- Organizations adapted the BSC to the distinct requirements of nonprofit operations insufficiently, and BSC implementation is still at an early phase.[31]
- The use of performance measurement systems in health care organizations takes no account of the politics and power an organization faces, especially considering that local NHS organizations might use performance measurement primarily as a ceremonial means of demonstrating their symbolic commitment to seeking legitimacy in the NHS.[32]
- Senior management must proactively and effectively manage the full range of critical organizational success factors to maximize the chances of improving organizational performance in the UK health care through a customized BSC system. Senior management within an organization must consider the range of critical success factors to maximize the propensity of operating an effective BSC system in the UK health care system.[33]
- It is very difficult for an NHS organization to avoid using and interacting with some of the elements of the BSC approaches.[34]
- Attention must not only be focused on financial and economic needs but also on quality, patient satisfaction, and staff retention.[2,30]

Concluding, these researchers agree with the idea that the BSC in their countries is in an early stage of development because it is mainly used as a measurement tool instead of being used as a strategic management tool.

TABLE 3 Details about the research methodology

	International Search	Spanish Search	Italian Search	Portuguese Search
Databases	Google Scholar Ebsco Host Science Direct Pub Med Scopus	Elsevier Dialnet CSIC	Essper	B-On
Keywords	Balanced scorecard + Spain/Italy/Portugal Spanish/Italian/Portuguese + Hospital/health/health care	Cuadro de Mando Integral + Hospital Salud Sanidad Centros Sanitarios	Balanced scorecard + Sanità Ospedali	Balanced scorecard + Hospital Saúde Sector da Saúde
Period	From 1992 to 2015 (23 years)			

Source: author's elaboration.

3 | METHOD AND RESEARCH QUESTIONS

3.1 | The method adopted

To reach our declared goals—(1) to highlight the state of knowledge and use on the BSC in the health care sector, (2) to identify perspectives, indicators, and BSC types, and (3) to underline differences between its use in the United States, where it was first implemented, and its use in 3 Southern European countries—we searched as many of the published papers as possible concerning the BSC in the Southern European health care sector. These papers were written in Spanish, Italian, or Portuguese, or they were written in English by Spanish, Italian, or Portuguese authors.[*] To carry out this work, we followed the recommendations of Short,[35] who states that a good review paper is more than a simple report, and Tranfield et al[36] who confirm that a literature review enables a researcher to map and assess the relevant intellectual territory to specify a research question, which will further develop his or her knowledge.

The following table shows how our search of the literature is structured (Table 3).

We followed a systematic review methodology with a clear aim of compiling any published paper on this topic in English or in Spanish, Italian, and Portuguese, scanning the abstracts according to the keywords presented in Table 3. Our findings are fully presented in the Appendix.

The period of analysis spans for more than 2 decades (1992 to 2015) since the initial development of this tool. Therefore, we feel that reliable findings may be obtained in the trends and the development of the published research on this topic in all 3 countries.

3.2 | The 3 countries selected: Spain, Italy, and Portugal

We selected Italy, Spain, and Portugal as countries of analysis because of their similar specific characteristics.

Following the World Health Organization,[37] European countries have 2 types of health systems that differ from that in the United States. With its NHS, which was established in 1948, the United Kingdom is the international reference for the National Health System,[†] which was inspired by the Beveridge report. This system is also used in Spain,

[*]We did not restrict our search to papers written in English because we would have gotten very limited results. By incorporating Spanish, Italian, and Portuguese into the analysis, we can also present country-specific research in the international forum. Papers written in Spanish, Italian, and Portuguese have very limited diffusion.

[†]Of the EU 15, 8 countries—Denmark, Spain, Finland, Ireland, Italy, Portugal, the United Kingdom, and Sweden—are governed by the Beveridge model, which is primarily financed through taxes.

TABLE 4 Characteristics of Spain, Italy, and Portugal compared with the United States and the United Kingdom

	USA	UK	Spain	Italy	Portugal
Country characteristics					
Population 2013 (OECD, 2016)	316,497 million	63,237 million	45,593 million	61,178 million	10,457 million
Primary Language	English		Spanish	Italian	Portuguese
Legal System Type	Common			Civil	
Geographical Region	North America			Europe	
Corruption Perception Index 2015[a]	76	81	58	44	63
Primary Religion	Protestant			Catholic	
Health system characteristics					
Health Care System Type	No single nationwide health system	National health system			
Provision Type	Mainly private provision (70%) but public provision through Medicare and Medicaid (26%)	Mainly public provision (between 75 and 96%)[b]			
		96%	75%	81%	86%
Access	Consumers choose health care providers. Free choice for primary care or patient clinical specialist	Universal health care system. Free of cost to the user, that ensures primary health care services (community health centres) as well as specialized attention (general hospitals, specialized hospitals and other specialized institutions)			
Funding	Reimbursement in various forms: fee-for-service, prospective payment case by case, and pre-paid health plans	Tax funding. Financing through taxes, which are specifically carried out by the central government in the case of the United Kingdom and Portugal and the central government and the respective regions in the case of Spain and Italy			

Items shaded in dark grey are health system characteristics in common between UK and Spain, Italy and Portugal. Those characteristics make things different in relation to BSC use in health in those countries and in the States.

Source: author's elaboration based on Lin,[13] OECD[60] and WHO Regional Office for Europe[37].

[a]The Corruption Perceptions Index (CPI) scores and ranks countries/territories based on how corrupt a country's public sector is perceived to be. It is elaborated by Transparency International (see more information on http://www.transparency.org/)

[b]See Paris et al[60] "Health Systems Institutional Characteristics: A Survey of 29 OECD Countries"

Italy, and Portugal. Its main characteristics are summarized in Table 4. On the other hand, the Social Security System[‡] is funded by compulsory social security contributions. Mandatory fees paid by both employers and employees are the main source of funding. With its system, which was created by Chancellor Bismarck in 1881, Germany serves as the historical paradigm of this model.

In analyzing the health care system in Spain, Italy, and Portugal, what immediately emerges is that the vast majority of hospitals in these 3 countries are public. By contrast, in the United States, health management is more often private than public, which is spreading to some European countries (such as Germany and Switzerland), where the number of private hospitals is on the rise. The predominant offer of either public or private health care strongly influences the country's choice of management tools, as this choice is influenced by leadership style and

[‡]Of the EU 15, 7 countries—Germany, Austria, Belgium, France, Greece, Luxembourg, and the Netherlands—are governed by the Bismarck model, which is funded primarily by compulsory contributions of both employers and employees.

organizational culture. The BSC is an American management control tool, which could be influenced by national culture; in addition, national differences in managerial practices imply different conceptualizations and interpretations of control.[12,39] Consequently, characteristics of the health care system like provision type, modality of access, and type of funding are determinant in the choice of key factors to monitor strategy alignment and indicators that verify strategy implementation; this gives BSC a different look. The 3 examined countries, Spain, Italy, and Portugal, have some common characteristics in terms of health care:

- The health care expenditure makes similar relative contributions to the gross domestic product. The Organisation for Economic Co-operation and Development average is 8.9%. Spain and Italy are in line (8.8%) with this average; Italy slightly above the average (9.1%); and the United States exceeds this average by far (16.4%)[§];
- Hospitals are primarily financed by funding from national budgets; government agencies are responsible for the control of their respective national health care services[**];
- In Spain, Italy, and Portugal, national public health care has encountered a similar challenge in recent years: how to maintain the financial stability of their respective health care systems while continuing to guarantee universal coverage.[††]

Previous research has underlined the homogeneity of these 3 Southern European countries, which justifies their selection for this study. Public provision of health is common to the countries under study; it contributes a strong political component to the health sector apart from bearing significance on the accomplishment of legal requirements. This is clearly different from the private sector, which is more oriented towards economic performance.

3.3 | The research questions

To reach our declared goals, we formulated 2 main research questions; the first question is further divided into 3 subquestions.

RQ 1: *What is the BSC used for in Italy, Spain, and Portugal?*

In answering this question, we seek to reach our main goal, ie, to determine whether the BSC is used as a tool to simply combine financial and nonfinancial indicators or as a tool to develop strategic control systems in these 3 countries. In other words, we want to determine whether the BSC is used as a strategic tool or as an indicator system.

We used the methodology proposed by Gao and Gurd,[22] which entails reviewing all the articles obtained from our in-depth search, with the following 3 subquestions in mind.

RQ 1.1: *Which perspectives are used?*

This is an important question, as there are several perspectives to choose from in the BSC. Although the focus of the BSC in health care institutions would seemingly be the patient's health—and, in turn, "learning and growth" would play an important role in reaching this goal, this focus and the consequent role of this perspective do not always occur. According to Marr and Adams,[40] the least common perspective used is learning and growth because it incorporates intangible assets that are difficult to control and quantify. According[41] to Speckbacher, 30% of the BSCs analysed in

[§]Data refers to 2013.

[**]Because a vast number of hospitals in these 3 countries are public, the use of management tools (such as the BSC) is uncommon because, until very recently, no attention was given to funds and value creation in the public sector. On the contrary, funds have been less available in recent years because of the global financial crisis. Performance objectives and resource limitations are both more prevalent in private health care institutions, yet they are beginning to become fundamental, even in the public sector, especially this global financial crisis.

[††]The enormous cost of maintaining public health care systems has put pressure on health care management to reform the systems to reduce costs. For example, in Portugal, 31 public hospitals were converted into Hospitals, S.A. (the equivalent of a private limited company) in 2002, and they have subsequently become public business entities (approximately 50% of the public hospitals in Portugal have undergone this type of ongoing transformation).

his study did not incorporate the perspective of learning and growth. This research question is also supported by the fact that scholarly discussions[42] that encourage the use of the BSC in health care organizations focus on how many and which perspectives should be included in the framework and how each perspective should be prioritized.[43-45]

RQ 1.2: *Which indicators are used*?

Most public health organizations use many indicators. With our literature review on the BSC in health care, our aim is to identify the most commonly used indicators that allow the organization to implement and control the strategy applied.

RQ 1.3: *Which type of the BSC is used*?

There are at least 3 definitions for the different stages in the development of the BSC. The types refer to the different stages in the evolution[‡‡] of the BSC. Generally, authors in this area agree that type I combines financial and nonfinancial indicators with the 4 classical perspectives (financial, customer, internal processes, and learning and growth). In this first stage, cause-effect indicators are not incorporated. However, type II focuses on the cause-effect relationship between the indicators and the strategic objectives. In this stage, the BSC often uses strategic maps to illustrate the link between the indicators and strategy.[§§46-48] According to Speckbacher et al,[48] type III is characterized by the development of strategic control systems that are linked to incentives, which include plans of action. These authors state that if the BSC is type III, it must help implement company strategy and describe it using cause-effect relationships, as communication alone cannot change the organization's behaviour.

RQ 2: *What are the main differences between the United States and the 3 Southern European countries in terms of BSC use in the health care sector?*

This research question allows us to underline the differences in BSC use in the health care sector between the United States and the group of the countries analysed.

4 | SAMPLE OF PAPERS INVESTIGATED

4.1 | Published Spanish BSC studies

In our Spanish search, we found 23 papers published by Spanish authors in 12 journals. In Table 5, we present the full list of articles found, the journal titles and the number of articles published in each journal, along with their impact index. If the journal is indexed in the *Institute for Scientific Information Web of Science*, we incorporate the *Journal Citation Reports impact factor* of the review for the specific year in which the paper was published. If the paper is not indexed in the Institute for Scientific Information, we check whether the journal is indexed in *SCImago Journal and Country Rank* to incorporate the *SCImago Journal Rank indicator*. The absence of an impact factor in Table 5 indicates that the review for the year that the paper was published was not indexed in any relevant database.

All the data pertaining to the publications used in this study are listed in the Appendix.

From Table 5, the following results can be derived:

- In Spain, publications on this topic began in 2002, 8 years after the first paper on the BSC in health care settings was published, but very few articles have been published on this subject over this period—between 0 and 3 per year.
- Only 4 articles by Spanish authors have been published in English over this 14-year period.
- The journals with the most publications are *Gaceta Sanitaria* and *Revista de Calidad Asistencial*, with 4 articles each.

[‡‡]Some authors refer to "Type I, II or III," as in Speckbacher et al,[45] but others use "first, second and third generation," as in Lawrie and Cobbold.[46]

[§§]Franco-Santos et al[47] suggest 4 types of BSC generations.

TABLE 5 Journals used in the Spanish search

	Number of Articles	Impact Index JCR[a]/SJR[b]
Spanish medical journals (16)		
Gaceta Sanitaria	1 paper 2007 2 papers 2009 1 paper 2010	0.338 (SJR) 1.172 (JCR) 1.114 (JCR)
Revista de Calidad Asistencial	1 paper 2002 1 paper 2004 1 paper 2005 1 paper 2006	0.154 (SJR) 0.221 (SJR) 0.200 (SJR) 0.180 (SJR)
Revista de Administración Sanitaria Siglo XXI	1 paper 2004	—
Todo Hospital	1 paper 2003 1 paper 2008	 —
Revista del Laboratorio Clínico	1 paper 2008	—
Gestión Hospitalaria	1 paper 2002	—
Medicina Clínica	1 paper 2010	—
Emergencias	1 paper 2012	—
Revista Espanola de Cardiología	1 paper 2012	—
Foreign medical journal (1)		
Biochemia Medica	1 paper 2015	0.65 (SJR)
Spanish business journals (3)		
Harvard Deusto Finanzas y Contabilidad	1 paper 2006	—
Revista Iberoamericana de Contabilidad de Gestión	1 paper 2005 1 paper 2006	— —
Foreign business journals (3)		
Measuring Business Excellence	1 paper 2005	0.035 (SJR)
Health Care Management Review	1 paper 2009	1.875 (JCR)
Health Care Management Science	1 paper 2012	0.705 (JCR)
Total papers	23	

Source: author's elaboration.

[a]The *Journal Citation Reports* (*JCR*) is elaborated by the *Institute for Scientific Information*, which establishes the impact factor and the classification of the publications on the basis of their bibliographical citations. There are very few Spanish publications in the JCR, and the humanities field remains uncovered. The 2013 Social Science edition has a list of 3080 journals, with a minimum impact factor of 0.000 and a maximum impact factor of 21.147.

[b]The *SCImago Journal and Country Rank* (*SJR*) includes publications and scientific indicators that are developed from the information contained in the Scopus databases that belong to Elsevier. The complete list has 29 385 scientific journals, which range from a minimum impact factor of 0.000 to a maximum impact factor of 45.894.

- The papers predominantly address public institutions instead of private institutions.
- Most of the Spanish articles are theoretical; they do not address the practical implementation of the BSC.
- A total of 75% of the papers were published in medical journals, and 26% were published in business journals.

4.2 | Published Italian BSC studies

In our Italian search, we found 19 papers were published in 12 different journals. In Table 6, we present the full list of articles found, the journal titles and the number of articles published in each journal, along with their impact index, as we did for the Spanish search.

TABLE 6 Journals used in the Italian search

	Number of Papers	Impact Index JCR/SJR
Italian medical journals (6)		
Mondo Sanitario	1 paper 2004 1 paper 2009 2 papers 2010	— — —
Politiche Sanitarie	1 paper 2009	—
Scenario	1 paper 2007	—
Italian business journals (7)		
Amministrazione & Finanza—Pianificazione e Controllo	1 paper 2003	—
Economia Aziendale Online—International Business Review	1 paper 2006	—
Prisma Economia	1 paper 2012	—
Mecosan	2 paper 2004 1 paper 2006 1 paper 2007	— — —
International business journals (6)		
Cost Effectiveness and Resource Allocation	1 paper 2009	1.140 (SJR)
The Health Care Manager	1 paper 2009	0.294 (SJR)
Journal Management Governance	1 paper 2012	—
The International Journal of Health Planning and Management	1 paper 2012 1 paper 2013	0.264 (SJR) 0.482 (SJR)
Journal of Health Management	1 paper 2015	0.160 (SJR)
Total number of papers	19	

Source: author's elaboration.

Abbreviations: JCR indicates Journal Citation Reports; SJR, SCImago Journal & Country Rank.

After reviewing all of the papers, we obtained the following results:

- In Italy, the first paper on this topic was published in 2003, ie, 9 years after the first paper was published on the BSC in health care settings. On average, between 0 and 4 articles have been published each year during this period.
- Only 6 studies have been published in English over this 13-year period.
- The journals with the most publications are *Mecosan* and *Mondo Sanitario*, with 4 articles each.
- All the papers examine public health care institutions (none of them examines private institutions).
- There is balanced distribution of theoretical articles and those that use case studies to analyse the practical implementation of the BSC in health care.
- A total of 32% of the papers were published in medical journals, and 68% were published in business journals.

4.3 | Portuguese BSC studies published.

In our Portuguese search, we found only 2 published papers*** (Table 7).

Our findings suggest that Portuguese researchers are not very interested in the possible applications of this management tool in the health care sector.

***However, 6 working papers and 3 books had been published on the research topic in Portugal, but they were not considered in this systematic literature review.

TABLE 7 Journals used in the Portuguese search

	Number of Papers	Impact Index JCR/SJR
Portuguese journals (business)		
TOC (*Técnico Oficial de Contas*)[a]	1 paper 2008	—
Revista Brasileira de Gestão de Negócios	1 paper 2014	0.054 (JCR)
Total number of papers	2	

Source: author's elaboration.

[a]The journal "TOC" is supported by *Ordem dos Técnicos Oficiais de Contas* (Order of Chartered Accountants), an organization that regulates the accounting profession in Portugal.

From our review of the Portuguese papers, we find only 2 papers. One is a theoretical work written in Portuguese and published 14 years after the first paper on the BSC in the health care sector was published. The other is a questionnaire-based research paper written in English. We can conclude that this topic is of yet to receive the attention it deserves in Portugal. It is worth noting that Portugal is a small country located in a relatively peripheral geographical position within the EU economic integration zone. The management of public hospitals in this country is strongly influenced by politics, and the Portuguese language is only spoken in this country as well as in Brazil and a few more African countries.

See the Appendix for all the analysed articles.[†††] The main results listed concern the type of organization studied, the focus of the paper (theoretical vs practical), the perspectives considered, the number of indicators, and the type of BSC (I, II, III, or IV).

In sum, from the 44 papers analysed, we have identified 3 main commonalities in these 3 countries:

- Public institutions were most often considered (94%). Public health care is the predominant provider in these 3 countries (see Table 4).
- Few papers have been published in English (75% were written in the author's native language).
- Half of the publications were primarily theoretical.

These findings lead us to conclude that a limited number of practical studies address the implementation of the BSC in these countries.

5 | RESULTS AND DISCUSSION

To understand what the BSC is used for in Italy, Spain, and Portugal (RQ 1), we have first to analyse the perspective adopted (RQ 1.1.), the most common indicators (RQ 1.2), and the BSC type used (RQ 1.3.) in Spanish, Italian, and Portuguese health care organizations.

RQ 1.1. Which perspectives are used? Most of the papers consider the 4 traditional perspectives (financial, customer/patient, internal business process, and learning and growth perspectives),[‡‡‡] although nonprofit organizations are the ones providing health care services. The authors use the model as it has been developed in areas other than the health care sector. In the case of the 3 countries analysed, adapting this management tool more specifically to health care organizations seems essential (see Table 9).

[†††]All the papers are marked with an "*" in the list of references below.

[‡‡‡]Kaplan and Norton[19] disseminated their findings through a performance measurement framework, which they developed and called the balanced scorecard. Kaplan and Norton's original version of the balanced scorecard expanded on mere financial performance measures and incorporated operational performance measures categorized by 3 perspectives: customer satisfaction, internal business processes, and innovation and learning.

In particular, when analysing the Italian research, one paper was found to exclude the financial perspective entirely,[49] and another paper was found to have incorporated 5 perspectives, including additionally the social environmental perspective.[50] In the Spanish context, 2 papers added 2 new perspectives: social balance and performance.[51] Because we found only 2 Portuguese papers, it clearly cannot present sufficiently strong results, but its theoretical contribution follows the same 4 traditional perspectives as those in Spain and Italy. Although not all of the papers specify a hierarchy among these perspectives, we argue that the financial perspective is not a priority. As opposed to the Anglo-Saxon context, in which there is growing evidence that access to resources within the UK public sector is now linked to the achievement of externally imposed performance targets,[52] our reviewed papers only consider containing costs and/or balanced budgets.

In addition, in the United States, there is an increased emphasis on financial metrics to the exclusion of other parameters; in addition to revenues and operating costs, other dimensions, specifically quality, patient satisfaction, and staff retention, must be considered.[30]

Our findings are in line with those of Trotta et al.[42] At least 3 applications of the BSC were identified in health care organizations: (1) the original framework, including financial, customer, internal process, and learning and growth perspectives; (2) a partial revision of the BSC framework in terms of its logical architecture (in some papers, the financial perspective is not placed on the top); and (3) a complete reworking of the original framework in both the number and types of perspectives. In this case, the name of the perspective is different from the original framework, and in particular, in one Italian paper,[49] the perspectives are 3 (stakeholders, internal process, and know how) and in another one, 5 (user/patient perspective, internal processes perspective, growth and learning perspective, environment relations perspective, and economic and financial perspective).[50]

In addition, affirming a particular interest in the learning and growth perspective in the analysed countries is not possible, which seems to confirm the findings in the main literature[40,48] underlining the importance of incorporating intangible assets into the learning and growth perspective along with other elements that are not always considered.

RQ 1.2. Which indicators are used? We found that Spanish, Italian, and Portuguese hospitals generally do not consider the strategy or identify the most critical points on which the strategy depends (key factors). Instead, they tend to incorporate the indicators that have been previously used at their institution, with no balanced business overview and no relation to critical outcome areas. This tendency makes aligning individual behaviours and organizational goals difficult because employees are not mindful of the organization's priorities, as their performance is not measured with specific indicators defined in line with strategic priorities. Indeed, the countries in question have widely used different indicators that do not focus on critical areas. In fact, many indicators resulted from the complexity of the hospital organization (eg, 70 indicators are proposed in one Spanish paper[53]).

However, indicators in the customer/patient, internal business process, and learning and growth perspectives are frequently used (eg, time spent on the waiting list and average stay). The use of these perspectives may represent an evolution and a shift in the focus towards more qualitative critical indicators instead of quantitative economic and financial data.

Although the applications in Spanish, Italian, and Portuguese health care organizations are misaligned, efforts are moving towards the adoption of a multidimensional performance tool, such as the BSC, in the health care sector. Performance measurement systems have traditionally only focused on accounting and financial measures[54] and have not encouraged a balanced business overview. The following table shows how often countries use particular indicators, starting with the indicator that appears most often (6 out of 48 in the Spanish case) and ending with those that appear at least twice (Table 8).

Additionally, the main indicators (especially in Spain and Italy) focus on developing measures to monitor and rationalize expenditures, to limit inappropriate hospitalization, to extend the hours of clinical service, to reorganize health care centres, to manage waiting lists, and to integrate regional health care organizations.

RQ 1.3. Which type of the BSC is used? In line with the previous findings about this question, we found that most of the studies in the Spanish, Italian, and Portuguese contexts (see the Appendix) follow a first- or second-generation BSC model. Therefore, for these countries during this period, the BSC is a control tool and is thus neither a

TABLE 8 Indicators on the papers

Indicators (Total Number of the More Frequent Indicators in the Papers)	Spanish Frequency	Italian Frequency	Portuguese Frequency
Emergency pressure	6	5	
Time spent on the waiting list	4	6	
Time delay in the emergency room	4	4	
Average stay	4	3	
Percentage of implemented suggestions	4	2	
Percentage of satisfied customers	4	2	
Number of claims	4	2	
New patients	4	0	
Surgery	3	2	
Percentage satisfied employees	3	2	
Absenteeism	3	3	
Percentage of studies promoted	2	2	
Occupancy rate in surgery	2	4	
Percentage of suspended interventions	2	3	
Mortality rate	2	4	
Occupancy rate	2	2	
Patient turnover rate	2	3	
Percentage of readmissions	2	4	
Percentage of consultations for rapid resolution	2	3	
Staff turnover rate	2	3	
Reported compliance rate	2	2	
Patients from primary care	2	2	
Inpatient	2	3	
Patient/doctor	2	3	

Source: author's elaboration.

management tool nor a tool to implement strategy, which is consistent with the first steps of the evolution, whereby a combination of financial and nonfinancial measures is considered (first generation) and measures are chosen that relate to "cause and effect relationships" (second generation). Using incentive systems, action plans, and targets (third generation), employees and managers are heading towards an alignment of individual and organizational goals (see Table 9).

Given the findings of the analysis conducted in this section regarding the first research question, we can affirm that the BSC is used as a tool to simply combine financial and nonfinancial indicators, not as a strategic tool, in these 3 countries.

The papers analysed over the 23-year period reveal some clues and push us to consider health care systems' characteristics as the main reasons that European countries and the United States use different approaches. The organization, financing, and delivery of health services, which describe the institutional framework of each country, seem to be the stronger justifications of these differences.

RQ 2: *What are the main differences between the United States and the 3 Southern European countries in terms of BSC use in the health care sector?* Regarding the second main research question, we found next possible reasons that might explain the differences between the United States and Spain, Italy, and Portugal:

The US health system is more private than public, and BSC comes from private sector. The health system in the Southern European countries incorporated into this research is mainly public with a strong political component and a strong bearing on the accomplishment of legal requirements. Bedford et al[55] observed that the BSC offers more

TABLE 9 Number of perspectives and type of balanced scorecard

		Italy	Spain	Portugal	Percentage
Number of perspectives	0	2	3	1	14
	1	—	1	—	2
	2	—	6	—	14
	3	2	1	—	7
	4	12	11	1	54
	More than 4	3	1	—	9
Total number of papers		19	22	2	100
Types	None	—	3	1	9
	1	12	9	1	50
	2	6	9	—	34
	3	1	2	—	7
	4	—	—	—	—
Total number of papers		19	23	2	100

Source: author's elaboration.

benefits when it is connected to the incentives and rewards system, when it is applied in various levels within the organization, and when the cause-effect logic is among the measures it uses. This is not the case in public institutions. The BSC must guide the implementation and communication of the strategy; it must be a system that helps to understand what adds value to the organization.

The hospital performance measures that are derived from Medicare reports include "cash flow," "cost per case," and "percent of revenue from outpatient care," among others. All of these measures are used to evaluate most hospitals in the United States.[3] Although they are useful, they are not applied in Spain, Italy, and Portugal, primarily because cost accounting in the health care sector is not traditionally and not fully implemented.[56,57]

Moreover, the BSC in the United States has a strong relationship with rewards systems. There is no long tradition in rewards payments systems in public health institutions in Spain, Italy, and Portugal. Incentive systems, bonus programs, and similar systems in the United States are not easily compatible with public payment systems, which are usually more rigid.

According to Chan,[58]

> *As early as 1994, the Governmental Accounting Standards Board (GASB) in the USA issued Concepts Statement No. 2, Service Efforts and Accomplishments Reporting (SEA)[59] to encourage state and local governments to report both financial and non-financial performance information in annual reports to assist users to assess the economy, efficiency and effectiveness of service provided.*

As such, the United States has 20 years of compulsory experience in using nonfinancial indicators, which is missing in the 3 Southern European countries, as we assume may be the case of many others.

In fact, if we compare our results with those from other European countries, even the United Kingdom, we do not find major differences. Indeed, our results are in line with a German study that states that its system is in the "early phase of BSC implementation"[31] or British one that confirms that "BSC development is still relatively limited."[33] Even Speckbacher et al[48] conclude that for firms in general, "only about 7% have Type III BSC."

6 | CONCLUSIONS AND FUTURE RESEARCH

The aim of this paper is to analyse the use of the BSC applied to the health care sector through the analysis of the publications written by Spanish, Portuguese, or Italian authors published in Spain, Portugal, and Italy (or elsewhere) between 1992 and 2015.

In these 3 countries, public health care institutions constitute more than 70% of the total health sector,[§§§38] which affects BSC implementation. Some characteristics of the public sector may hinder the adaptation of the BSC to national health care systems. For instance, public institutions are unaccustomed to establishing their objectives in terms of a specific strategy. The health care system type, namely, the national health care system (public provided, tax-funded universal health care), used in our 3 countries seems to be the main factor influencing BSC design and use. Other European countries share similarities in the organization of health care systems, especially the Southern European countries; but these may not necessarily be the only ones. That is, this may be the case of many other countries.

Given this evidence, we conclude that the BSC in these 3 countries is not an instrument for implementing strategy and aligning the levers of control that help integrate the organization. The first step of the process, which attempts to influence the behaviours related to organizational resources to implement organizational strategies, is obviously missing.

By and large, the central issues are not adequately outlined, but they do specify the following:

- The BSC is not currently considered a tool for implementing organizational strategy (7% of the papers address BSCs type III).
- Key success factors are not specifically outlined for the practical application of the BSC.
- There are no incentive plans: Reward systems are not considered in these papers.
- No integrated clinical and administrative databases allow for an adequate exploitation of the data to sustain BSC use.
- Supplementary perspectives emerge (mainly social perspectives) because of their strong connection to health.

The BSC should be developed at different organizational levels and applied to operating units, not only to the senior management level. A simple combination of financial and nonfinancial measures that are unrelated to the critical outcome areas, as shown in the countries analysed, is not enough. Furthermore, when designing performance management systems such as BSC in health care and choosing the indicators, it is helpful to be aware that quality of care regulators increasingly drives the elements we measure. Indeed, a variety of stakeholder groups exert increasing pressure on providers for measured performance; they demand data on quality and patient satisfaction, even though they simultaneously press for lower costs.[5,21]

To reach its strategic goals, each health care organization must also adapt the number and types of perspectives, key performance areas, and key performance indicators, but it should not be limited to applying the traditional BSC with the 4 traditional perspectives (financial, customer/patient, internal business process, and learning and growth perspectives) without any adjustment. Indeed, Kaplan and Norton[61] frequently underline that the BSC must be tailored to suit each organization.

Moreover, an organization's ability to implement the BSC must be supported by the creation or development of a reward system and a database that includes clinical and financial data. In addition, the design of the BSC needs to be strengthened by the design of the strategy map. This instrument not only outlines the key factors useful for implementing the strategy but also draws the cause-and-effect links between organizational strategies and individual day-to-day business.[62] This tool identifies the path to the destinations, the strategic objectives, and the involvement of tangible and intangible assets; and it determines how assets are combined to create value propositions.[62]

Otherwise, a big effort to implement an authentic and valid health care BSC makes no sense.

[§§§]The percentage of total acute care beds by country is 81.5% in Italy, 85.7% in Portugal, and 74.2% in Spain.[60]

Finally, there are also practical implications for researchers. We found that a limited number of published studies were jointly conducted by university researchers and researchers associated with hospital settings. The lack of communication and cooperation between these different areas makes attaining the kind of interdisciplinary collaboration required to implement the BSC impossible. The fields of business and medicine coexist in very few areas as much as they do in health care management. Increased collaboration between these 2 fields could generate interesting results. We hope that more studies will consider collaboration as a vital component in such research and bridge the gap between the 2 fields in the near future.

This study especially underlines to practitioners and researchers, both in the considered countries and other countries, the need to further adopt this tool. Indeed, it must not simply be used to combine financial and nonfinancial indicators, but must rather be used as a strategic tool to implement and manage strategy, as stressed in the literature.[14]

To better understand the use of the BSC, future developments should consider other countries in Europe and conduct comparative studies on BSC use in the health care systems of Europe and the United States, for example.

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APPENDIX A

Analysis of papers by Spanish, Italian, and Portuguese authors written in their own

Paper Number	Author(s) (Year of Publication)	Author Affiliation (U,H,HI,HC)	Public or Private Organization	Theoretical or Practical	Perspectives Used	Number of Indicators	Generation BSC (type I, II, or III)	Country
1	Montserrat D, Martinez JR, Alonso M et al (2002)	H	Public	Practical case study	—	—	—	Spain
2	Oteo LA, Perez G, Silva D (2002)	HI	Public	Theoretical	6	—	—	Spain
3	Urrutia I (2003)	U	Public	Theoretical	4	—	Type III	Spain
4	Colella MT, Coppa G, Sanguigni V (2003)	H + U	Public	Theoretical	4	—	Type II	Italy
5	Muslera E, Fernandez P, Natal C (2004)	HI	Public	Theoretical	4	—	Type II	Spain
6	Astier MP, de Val I, Gost J et al (2004)	H	Public	Theoretical	2	—	Type I	Spain
7	Santos M, Fidalgo E (2004)	U	Public	Practical case study	4	—	Type III	Spain
8	Frittoli G, Mancini M (2004)	H	Public	Theoretical	4	—	Type II	Italy
9	Cuccurullo C, Tommasetti A (2004)	U	Public	Theoretical	4	—	Type II	Italy
10	Vaiani R, Zoia P, del Pero G et al (2004)	H	Public	Theoretical	4	—	Type II	Italy
11	Ortiz J, Martinez JR, Alonso M et al (2005)	H	Public	Practical case study	2	63	Type I	Spain
12	Urrutia I, Eriksen SD (2005)	U	Private	Theoretical	4	46	Type II	Spain
13	Fernandez A, Trillo MA (2006)	U	Public	Theoretical	2	—	Type II	Spain
14	Ruiz D (2006)	U	Public	Theoretical	4	12	Type I	Spain
15	Martinez M, Seco JM, Suarez A et al (2006)	H	Public	Practical case study	2	25	Type I	Spain

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Paper Number	Author(s) (Year of Publication)	Author Affiliation (U,H,HI,HC)	Public or Private Organization	Theoretical or Practical	Perspectives Used	Number of Indicators	Generation BSC (type I, II, or III)	Country
16	Perotti L (2006)	U	Public	Practical case study	5	45	Type II	Italy
17	Ferrari D, Merlini L (2006)	U	Public	Practical case study	4	—	Type II	Italy
18	Villalbi J, Guix J, casas C et al (2007)	HI	Public	Practical case study	4	—	Type II	Spain
19	Zucconi M (2007)	H + U	Public	Theoretical	4	—	Type I	Italy
20	Barichello P, Impiumi F, Orlandin A et al (2007)	H	Public	Theoretical	3	12	Type I	Italy
21	Benitez AJ, Caballe M, Torra M (2008)	HI	Private	Practical case study	4	45	Type II	Spain
22	Mozos M (2008)	HC	Public	Theoretical	4	—	Type I	Spain
23	Sousa CM (2008)	U	Public	Theoretical	4	—	—	Portugal
24	Salinas M, Flores E, Uriselles J (2009)	H + U	Public	Practical case study	2	15	Type I	Spain
25	Pastor J (2009)	U	Private & public	Theoretical	4	70	Type II	Spain
26	Naranjo D (2009)	U	Public	Theoretical	—	—	—	Spain
27	Verzola A, Bentivegna R, Carandina G et al (2009)	H	Public	Practical case study	4	28	Type I	Italy
28	Impagliazzo C, Ippolito A, Zoccoli P (2009)	U	Public	Practical case study	4	38	Type I	Italy
29	Fioretti G, Paradisi M, Pifferi C et al (2009)	H	Public	Practical case study	4	30	Type I	Italy
30	Fani M, Ferro S, Garramone L et al (2009)	H	Public	Theoretical	4	—	Type I	Italy

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Paper Number	Author(s) (Year of Publication)	Author Affiliation (U,H,HI,HC)	Public or Private Organization	Theoretical or Practical	Perspectives Used	Number of Indicators	Generation BSC (type I, II, or III)	Country
31	Naranjo D (2010)	U	Public	Practical case study	3	—	Type I	Spain
32	Canela J, Martinez E, Labordena MJ et al (2010)	HI	Public	Theoretical	4	—	Type II	Spain
33	Garibotto L, Nante N, Sciandra P et al (2010)	H + U	Public	Practical case study	5	12	Type I	Italy
34	Messina G, Falchetti V, Bacci, A (2010)	H + U	Public	Practical case study	4	73	Type III	Italy
35	Bisbe J, Barrube J (2012)	U + HC	Public	Theoretical	—	—	Type II	Spain
36	Montero F, Calderon de la Barca JM, Jimenez L et al (2012)	HC	Public	Practical case study	1	19	Type I	Spain
37	Cattinelli I, Bolzoni E, Barbieri C et al (2012)	H + U	Public	Practical case study	2	13	Type II	Spain
38	Di Stanislao F (2012)	HI	Public	Practical case study	4	—	Type I	Italy
39	Nuti S, Seghieri C, Vainieri M (2012)	H	Public	Practical case study	—	—	Type I	Italy
40	Trotta A, Cardamone E, Cavallaro G et al (2013)	H + U	Public	Theoretical	6	37	Type I	Italy
41	Ippolito A, Zoccoli P (2013)	U	Public	Theoretical	—	—	Type I	Italy
42	Rodrigues P, Aibar B, lima L. (2014)	U	Public	Practical case study	—	—	Type I	Portugal
43	Broccardo (2015)	U	Public	Theoretical and practical case study	3	16	Type I	Italy

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Paper Number	Author(s) (Year of Publication)	Author Affiliation (U,H,HI,HC)	Public or Private Organization	Theoretical or Practical	Perspectives Used	Number of Indicators	Generation BSC (type I, II, or III)	Country
44	Salinas M, López-Garrigós M, Flores E, Santo-Quiles A, Gutierrez M, Lugo J, Lillo R, Leiva-Salinas C (2015)	H + U	Public	Practical case study	4	—	Type I	Spain

H, author with some connection to a hospital; U, author from academia; HI, author with some connection to a health institution other than a hospital (eg, health services, the Ministry of Health); HC, author with some connection to a health care consulting company.

Type I, "The first generation BSC combines financial and non-financial indicators with the four perspectives (financial, customer, internal business process, and learning and growth)." This generation of the BSC may also include measurement systems, which do not contain a cause-effect logic. Type II, "Emphasizes the cause-and-effect relationships between measures and strategic objectives. It became a strategic management tool, usually utilizing a strategy map to illustrate the linkage between measures and strategies." Type III, this generation "is about developing strategic control systems by incorporating destination statements and optionally two perspective strategic linkage models." The difference between this BSC and the second-generation BSC is that the third-generation BSC adds action plans and incentive-linked targets (following Speckbacher et al[48] equivalent to Gao and Gurd[22] generations typology).